

SA387 Grade 12 Class 1 – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Composition

| Element | % Composition |
|-----------------|---------------|
| Carbon (C) | 0.05 – 0.17 |
| Manganese (Mn) | 0.40 – 0.80 |
| Silicon (Si) | 0.15 – 0.50 |
| Phosphorus (P) | ≤ 0.025 |
| Chromium (Cr) | ≤ 0.025 |
| Sulphur (S) | 1.00 – 1.50 |
| Molybdenum (Mo) | 0.45 – 0.65 |

B. Mechanical Properties

| Property | Value |
|------------------|---------------|
| Yield Strength | ≥ 240 MPa |
| Tensile Strength | 415 – 550 MPa |
| Elongation | ≥ 20 % |

3. Common Applications

- Hydro-processing reactors
- Boiler drums
- High-temp pressure vessels

4. Standard Conformance

ASTM A387 / ASME SA-387 – Chromium-Molybdenum Alloy Steel Pressure-Vessel Plates.

5. Disclaimer

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